



GEORGE LINDSAY **ELEPHANT SEALS COME BACK!**

ONE DAY SOON, California bathers may be startled to find a favorite beach occupied by roaring, snorting sea monsters! It will make a good story for the press and will indicate a triumph for conservation; it will mean the return from virtual extinction of a unique and wonderful sea mammal, the elephant seal.

Elephant seals, or sea elephants, are coming back. Once they inhabited insular and coastal beaches from Point Reyes, near San Francisco, to Cape San Lazaro, just north of Magdalena Bay in Baja California. The docile and phlegmatic nature of the beasts, coupled with absolute lack of timidity toward man, made them easy prey for whalers in the early 1800's. Seal oil was valuable, and the herds of giants were massacred wherever they were found. They were not harvested as a crop—rather whole rookeries were exterminated for the try-pots. Records show they were still being killed commercially on Santa Barbara Island as late as 1852, but a decade later they had been reduced to a few small groups on isolated beaches far down the Mexican coast. Even there they were relentlessly pursued, and in 1869 Capt. C. M. Scammon reported them “nearly, if not quite, extinct.”

Scammon's account of the slaughter is graphic, though chilling. Sailors armed with iron-headed clubs and lances got between the herd and the beach. If the bulls chose to give battle, they were dispatched with a musket ball in the brain, or as one reared back in characteristic fighting posture, a lance was thrust into the roof of its mouth. This caused it to settle back, and the sailors could club it into insensibility. Retreating before the hunters, the animals were forced back against the cliffs where they were clubbed to death or were smothered by each other's weight. The thick layer of blubber lying just under the skin was cut into chunks called “horse-pieces,” about eight inches wide and twelve to fifteen inches long. These were strung on ropes, dragged through the surf to small boats, and towed to the whaler. There the oil was tried out in iron pots set in a brick furnace.

The wholesale slaughter ended with the depletion of the herds, but the few surviving individuals continued to be hunted. In 1884, Charles H. Townsend was with sealers who spent two months hunting at San Cristobal Bay, but during that time they found and killed only sixteen elephant seals. A concentrated search of the animal's old haunts,

One sea elephant was known to survive sixty years ago—today they are coming back to California's beaches

even of Guadalupe Island, failed to reveal others. Then in 1892, Townsend again visited Guadalupe Island where eight elephant seals were found, seven of which were killed. At least the skeletons and hides were saved for museum purposes. As the Baja California coast and islands were then periodically visited by parties hunting sea lions for hides and oil, it seemed improbable that any elephant seals could survive.

Fortunately a few had escaped, and for some years they were allowed to live and propagate in their redoubt area on inaccessible Guadalupe Island. In 1911, Townsend returned on the *Albatross* to find about 125 animals at Elephant Beach, on the northwest side of the island. This marked the first increase in the elephant seals' numbers since their slaughter had begun, and the increase has continued steadily until today. In 1922, an expedition jointly sponsored by the California Academy of Sciences, the San Diego Society of Natural

History, and the Scripps Institution for Biological Research visited Guadalupe aboard the Mexican fisheries boat *Tecate*. The breeding season was over and they found only adult male elephant seals, but those numbered 264. Upon the return of the expedition, reports were submitted urging the Mexican Government to enact legislation to protect the animals. President Obregon declared Guadalupe Island a government reservation. Unauthorized landing on the island and the killing or molesting of the seals were prohibited. These protective measures are still in force today.

The increase since the low of one known animal in 1892 has been remarkable. Ever-growing herds reoccupied all the suitable beaches of Guadalupe. The population continued to expand, and the San Benitos Islands, 199 miles east of Guadalupe and just west of Cedros, was the scene of the first recolonization. Occasional individuals were observed there as early as 1928, and since then larger and larger groups have been using the Benitos. In February of 1950 we observed over one thousand animals scattered in breeding colonies on every beach of the San Benitos group.

Photographs by the Author



A large bull elephant seal watches over his harem.

The elephant seal is a wanderer over the open ocean. Mr. Egmont Z. Rett of the Santa Barbara Museum of Natural History reported an elephant seal on San Miguel Island in 1926, and in 1945 he saw two on San Nicolas Island. In 1929, sword-fish fishermen killed one in the open ocean about forty miles off San Diego. This specimen came into the hands of Laurence M. Huey of the San Diego Museum of Natural History, who made a diagnosis of the stomach contents of the animal. The food of these creatures had been a mystery because the stomachs of the animals killed at the breeding grounds were always empty. The stomach of the animal Huey investigated contained seven ratfish, one California dogfish shark, one swell or puffer shark, three skates, and four squid. These contents indicated that the seal descends to great depths in feeding, for as Huey noted, the ratfish, the principal item of food, is most often found from 50 to 120 fathoms down. Also, it is important to note that none of the fishes used for

food by the elephant seal are of commercial importance.

In April 1929, Dr. George A. Bartholomew of the University of California at Los Angeles took a group of students to the Coronados Islands, just 18 miles south of San Diego. There the students were surprised to find a herd of 73 elephant seals established in a sheltered cove on the west side of South Coronado, which is but a few miles from where the animals used to haul out on the Silver Strand. What an attraction it would be if they should reestablish themselves at the State Beach Park now located on the Silver Strand! Dr. Bartholomew found a large herd on San Nicolas Island in May, June, and July 1949; in April 1950, 168 animals were counted. As with the group on the Coronados Islands, the elephant seals were sub-adult and could not be considered a breeding colony. On a trip to San Miguel Island in the summer of 1950, however, members of the staff of the Santa Barbara Museum of Natural History found

A big breeding colony of many harems on the northeast side of Guadalupe Island. Dr. George A. Bartholomew, the lone human counting them, got an estimated total of sixteen hundred animals.

OPPOSITE PAGE: A typical small, isolated harem, with a large bull in the middle foreground.



a group of over 50 elephant seals established on that island. Many of these were fully adult.

It thus seems reasonable to believe that some of our California beaches may soon again be used by resident herds of elephant seals. These animals are unafraid of man, and unless molested they probably wouldn't object to sharing beach rights with bathers! The huge creatures are of great interest and would be a most important natural history asset.

It has twice been my privilege to visit Guadalupe Island where I was intrigued by the unusual habits and actions of elephant seals. In April 1948 Reed Moran, Mr. and Mrs. Louis Cavanaugh, and I visited Guadalupe in the Cavanaugh's ketch, the *Marviento*. In late January of 1950, Mr. J. W. Sefton, Jr. invited me to accompany a group of scientists on an expedition to Guadalupe aboard the Sefton Foundation research ship *Orca*. Among those making the trip were Dr. George A. Bartholomew, who made a comprehensive habit study of the elephant seals which is to be published in the near future, and Dr. Carl L. Hubbs, of Scripps Institution of Oceanography, who studied the endemism in the fish of this oceanic island.

Perhaps the first thing that strikes a visitor to

an elephant seal beach is the size of the beasts. The adult bulls average about 16 feet in length and weigh nearly three tons. Larger specimens have been reported; Scammon mentioned one 22 feet long. The mature males have a snout, or trunk, about 16 inches long which is flexible and pendant when the animal is not excited and which gives it an elephantine appearance. It serves no useful purpose that we could see, though the Mexicans declared it is used to probe rocks in search of food. The male makes a characteristic snorting or roaring noise by opening his mouth wide, folding the tip of his proboscis into the mouth, and exhaling air in short blasts. The resulting sound is resonant and can be heard far away. Every member of our party had a different idea of what the call resembled—from the chopping of trees in a dense forest to a distant pile driver. During the breeding season, this call is a challenge between males and is constantly heard. At other times of the year they seem just to enjoy making the call. Anchored in a narrow "doghole" in East San Benito, we aboard the *Marviento* were surprised to find that young male elephant seals loved to float in a deep sea-cave giving the call where the sound echoed. A half dozen continued the trum-



peting during the entire three or four days we were there.

Females are about one-third the size of the males, lack the overdeveloped "trunk," have large, beautiful eyes, and are not heavy-bodied. They do not "snort" or "trumpet" but do have quite a vocabulary, and, approached too closely, they open their mouths very wide and exhale with a rasping, hissing sound. Sometimes it sounds like a prolonged belch. Young pups bark, yelp, and squeal. Perhaps the world's most impressive snore is that of a large sleeping bull elephant seal. Elephant seals take very deep breaths, then close their nostrils and hold the air sometimes as long as seven minutes, after which they exhale with a blast of air which, when released through 16 inches of relaxed proboscis, produces a really awe-inspiring snore. An elephant seal beach on a normal day gives rise to a cacophony of sound—grunts, groans, belches, hisses, squeals, snorts, trumpets, and roars!

At the time of our visit in late January, the breeding season was well along. The serious battles between males for harem rights had been going on for some time, and each of the dominant bulls had a group of females surrounding him. Every harem was surrounded by a peripheral group of disgruntled males, and only constant vigilance of the harem master prevented his fe-

Mama's milk is so rich that this baby seal will soon be too fat to move around.

males from being taken. Every few minutes an outsider would challenge; the harem bull would answer and start laboriously to meet the challenger. Usually the latter would lose courage and retreat, but occasionally would hold ground, and the two would rush up to each other, rear high in the air with mouths open, trunks folded back, and teeth bared, and make rapid passes at each other's head and neck. The skin of the bull's chest is very thick and almost plate-like as a result of scarring and callousness from this dueling. The trunks are often injured and torn, and many of the larger bulls are blind in one eye because of this constant fighting. Usually the challenger was driven off into the sea, sometimes followed by the infuriated harem bull. This was what the peripheral bulls were waiting for, and they would move into the harem. The females of the harem seemed to feel no loyalty, and we observed one accept three different bulls.

In small isolated harems, it was easy to see and understand the social behavior of the family group. On the larger beaches, the harems were crowded together, and the activities of the animals were very confusing.

The pups had just been born at the time of our visit in January. At birth they were black, thin, and about four feet long. They had high-pitched cries and barked like fox pups. They were always busy nuzzling the nearest adult, male or female, looking for a nipple. The incredibly rich seal milk made them gain weight so rapidly that they were soon too fat to move. Apparently they more than doubled their birth weight, about 90 pounds, in the first few weeks of life.

The life of a young pup is precarious because of the breeding activity being carried on in the harem. The huge males, when answering a challenge or pursuing a female, often crush the young pups in their paths. I saw two infants killed this way in one afternoon. The mothers would cry and bark at the males when they rolled over their pups, but their efforts were in vain. Carcasses on the beach indicated that perhaps as many as 25 per cent of the newborn pups in the more crowded harems were killed by being crushed.

The breeding season apparently extends over at least three months. After that time nearly all the adult males retire to special beaches, while

the females, their young, and the immature males inhabit other areas. This would explain the reports that all males or all females and young were seen at specific places. In April, 1948, we spent some time observing the elephant seals at a beach north of the landing at North-East Anchorage. At that time, there were only one or two large males with the group of some five hundred animals, while the population on Elephant Beach on the other side of the island was all adult bulls. In early February of this year, the former beach had a population of about sixteen hundred, with a large percentage of adult males, while the B.O.Q., as we called Elephant Beach, was nearly deserted.

The males apparently do not feed during the breeding season. They come ashore prepared with a layer of blubber several inches thick which decreases until the old sealers reported that at the end of the season it was often only two inches thick.

Elephant seals are playful and spend hours in compact groups sporting in the surf. At North-East Anchorage, the bottom drops off so rapidly that we put a large manila bow line ashore to keep from dragging anchor. Each swell pulled the line out of the water. This was observed by a half-grown elephant seal, who proceeded to swim over and under the surging line in an aquatic version of jump-the-rope. Tiring of this, he took the line



Elephant seals love to play—a compact pod is amusing itself in the surf.

in his mouth and rode it up and down as it pulled him half out of the water. The young males are constantly playing at mock battle and trying their new "snorters."

In April many of the animals looked motheaten because of their unique way of shedding. The whole outer layer of skin, including the hair, loosens and sloughs off in large patches. The animals are uncomfortable during this time and are constantly rubbing and scratching to remove the patches of loose skin. The fresh skin covered with gray hair is revealed when the other falls off. The newly "molted" elephant seal is light silver gray in color, with a tan or almost golden belly.

Elephant seals are not graceful on land. Their hind flippers are modified to form a fish-like tail, and the fore flippers are not capable of helping much in land locomotion. As a result the animal has to hunch itself along, in a manner possibly best described as "undulating." On land, they resemble huge squirming worms. In the water, however, they are excellent swimmers, contrary to various reports. While playing in the surf, they look awkward and clumsy as they spread their flippers and roll about in the breakers. But in the open water they fold the fore flippers against their bodies, spread the joined hind flippers, and swim with a lateral motion of the whole caudal area, as a fish does. They can swim very rapidly, always completely submerged when in a hurry.

We can hope, and even expect, that one day soon we may find a colony of elephant seals frequenting one of our beaches. Carl Hubbs and Connie Limbaugh, a graduate student at the Scripps Institution of Oceanography, both met adult elephant seals while diving for fish, and the animals were not belligerent. On shore they are not dangerous if the slightest caution is used. That they are unafraid of man is indicated by their use of a beach that is also used by lobster fishermen at San Benitos Island, and by their lack of concern when we visited their herds.

Fishermen here would have to be educated not to hurt them, and severe penalties would have to be levied against those who would molest them on land or in the water. It seems improbable that elephant seals consume fish of economic importance; at least the specimen examined by Huey had eaten only fish of no commercial value.

The return of the elephant seals to California has been a most remarkable comeback of an interesting animal. Welcome to California! END

LOUISA CLARK WILLIAMS

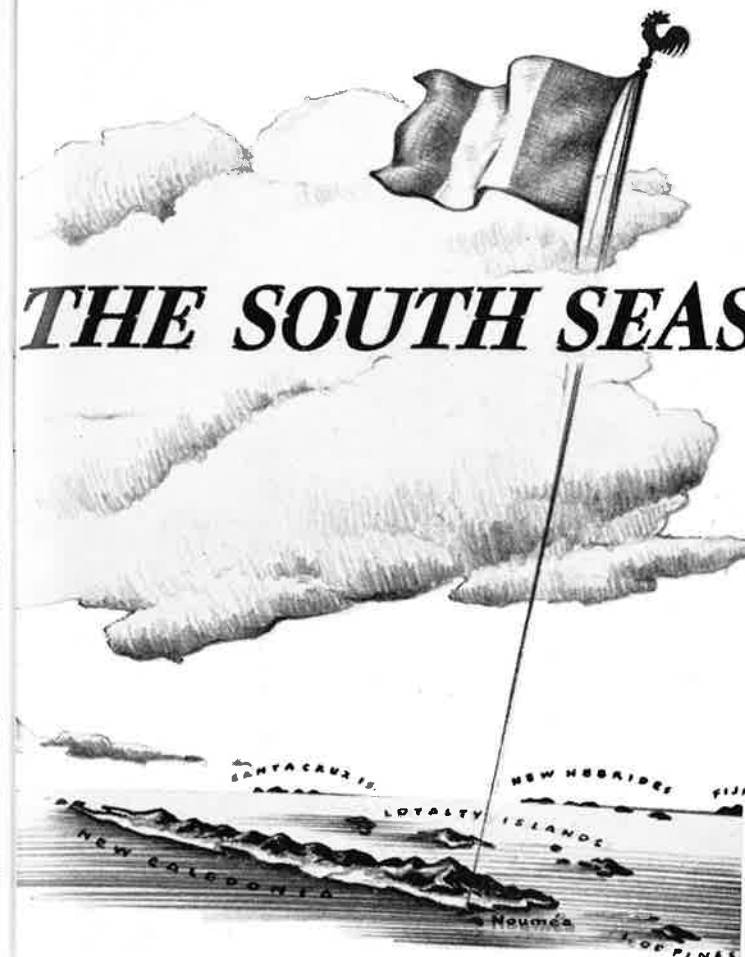
Old France *IN THE SOUTH SEAS*

PHOTOGRAPHS BY THE AUTHOR



NEW CALEDONIA, that long narrow island east of Australia, may have been changed in many ways by the late war. For example, it suffered or enjoyed the hectic benefits of an "American invasion." Admiral Halsey chose this strategic mass of great brown and red mineral mountains, in a delightful Mediterranean climate, as his headquarters. Since it is almost completely surrounded by a wave-proof coral reef — from one to ten miles off shore — in addition to two large, landlocked harbors, it gives almost unlimited sheltered anchorage for ships and seaplanes. Land planes, however, find only one place on the whole island large and level enough for an airfield for all types of aircraft.

Despite war's effects, the general look of this valuable French possession must be unchanged since 1940 when my husband, Dr. Francis X. Williams, entomologist for the sugar planters of Hawaii, and I were there. The same people are there and we hear from them still. The massive, bare or grassy mountains must still have pockets of jungle or high forest along their river slopes. Their lower lands must still be softened to the eye by the indigenous, small, eucalyptus-like paper bark or



niaouli trees, which spread an endless gray veil shot through with the slender, crooked white of their trunks — crooked and sudden as lightning, they make a shivery, ghostly, old, old kind of forest.

The capital "city," Nouméa, that dreaming bit of old France somehow transported to the South Seas and stranded there, must waken the same wistful memories in anyone who loves a French village. It is indeed such a village, complete with its central *Place* around a sculptured fountain topped with a graceful girl. On the brown and humpy hills behind the town, goats graze sagaciously. Nouméa is unlike French villages, however, for it was built all in about a half century — the second half of the nineteenth century — except for two or three very modern business places such as the Bank of Indo-China. Anyone can see this for himself in the houses so embellished with scroll-work in wood and crude stained glass. It is different, also, in the plants decorating its formal,



graveled gardens. The *Place* is roofed by the flaming umbrellas of royal poinciana trees. Hibiscus bushes line the walks. Coconut palms arc gracefully up from street corners.

We went to New Caledonia when the war had already disrupted shipping in that vast watery world and the airplane service had not yet begun. For us, a six weeks' voyage via Samoa, Fiji, New Zealand, and Australia (far south at Sydney) was needed to take us there—a precarious journey, as it turned out. The next scheduled ship to ours from Honolulu was torpedoed off New Zealand. The next little coal freighter to ours from Australia to Nouméa disappeared with its valuable coal, important documents, and the important nickel-smelting official who carried those documents. The crew was found months later marooned on Nauru Island, far to the north. We, ourselves, were delayed two weeks in Sydney by the fall of France. But we flew home to Honolulu in three safe and easy days.

Thus in our own persons we stepped across a dividing line between the past and the future,



Ferns and factories—Nature and man, modern European man, at least, contrast sharply in New Caledonia. The smoke of Nouméa's nickel smelting plant rises from land built out into the harbor. Ore barges lie between the fill and an outlying part of the city. Part of the harbor and one of its two narrow entrances are beyond.